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Reviews of 17 studies relating to female vocational education are organized by topics: (1) "New Directions in Business Education" reports a program for scientific secretaries, the effects of interval pacing on typing skills, a task analysis of an office occupation cluster, and a 4-week preservice institute for office education teachers. (2) "Home Economics: In School and Community" describes an evaluation study of 12 pilot wage earning home economics classes, a film on homemaker service, and a 6-week child development summer institute for selected home economics teachers. (3) "Food Service Occupations" treats a national survey of nonbaccalaurate commercial food programs and an instructional materials development project for food service occupations. (4) "Career Opportunities in Health Services" reports a survey of practical nurses in Illinois, a study of programs for biomedical equipment technology, a workshop for practical nursing teachers, guidelines for program planning in health technology, and curriculums for medical record technicians and teachers of medical lab assistant programs. (5) "Career Patterns for Women" reviews a project and a bibliography on this topic. "Plain Talk," a continuing column, provides evaluative comments on the items reviewed. The bibliography lists 12 related studies which are in progress. (EM)

RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

*"Research Visibility" is a research project of the American Vocational Association. The purpose is to give visibility to significant research: experimental, demonstration and pilot programs; upgrading institutes, seminars and workshops; and other leadership development activities for teachers, supervisors and administrators. The "Research Visibility" report synthesizes important projects which have been reviewed, selected and analyzed for their value to vocational, technical and practical arts educators, guidance personnel, and other leaders in education, manpower and related fields. A composite bibliography of significant research and development materials is included.

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Vocational Education for Girls and Women

Educators have generally neglected to recognize the special and unique life pattern of women in modern society. They characteristically have periods of interrupted and delayed payroll employment combined with varying home and family responsibilities. Certainly, the typical high school guidance program, with its concentration on grades and credits, is far from relevant for the young woman who, more often than not, will be employed, or seek employment, immediately after leaving school, and who will have a husband and family shortly thereafter.

The curriculum, too, is in most cases a "one-shot" proposition; an either-or alternative is thrust upon the girl in junior high school. She must either select an academic curriculum, or one with a specific vocational objective. And the continuing vocational education requirements of female adults are scarcely considered.

Negligible Attention

The Panel of Consultants Report of 1962, *Education For a Changing World of Work*, is rightly hailed as a historic document. But the amount of penetrating analysis it gave to the special vocational needs of girls and women has been negligible, as was the legislation that followed.

Other well-known treatises on education have also missed an opportunity to consider the fact that a growing proportion of our female population will work, and that a very large number now seeking employment are poorly equipped to meet the complex demands of home, work and society. Grant Venn's book on postsecondary

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Dr. Gordon F. Law is editor of "Research Visibility." The organization for this department of the JOURNAL, the pattern for reporting and the writing represent his work.

vocational education, *Man, Education and Work*, which is mainly preoccupied with the homogenization of educational efforts, has neglected to seriously consider the vocational educational needs of girls and women. Yet another important document, *Imperatives in Education*, prepared by the American Association of School Administrators, has failed to identify problems relating to the female sector.

The best source of information concerning the status of women in the work force is the Women's Bureau of the U.S. Department of Labor. One of its publications, the reprint of a section of the *1967 Manpower Report* called "Utilization of Women Workers," says that in 1966 women represented more than *one-third* of the country's work force, and nearly *two-fifths* of all women were 14 years of age and older.

"Women's disadvantaged position in the job market emphasizes the need for increased efforts to broaden their training and employment opportunities. . . . Stereotypes about 'women's jobs' and 'men's jobs,' deficiencies in the vocational guidance and counseling available to most girls, emphasis on traditional occupational choices, and limitations in the types of education and training courses offered women have all contributed to women's job market limitations. Too many women and girls accept the view that only a narrow range of job alternatives is open to them, and they have not been encouraged to obtain the types of education and training which would prepare them for many new and expanding job opportunities for which they could become qualified."

Speaking further on the need for relevant guidance and education, "Utilization of Women Workers" states that the importance of early recognition of greatly changed life patterns of women was emphasized at two pilot conferences on counseling co-sponsored by the Women's Bureau of the Department of Labor and the U.S. Office of Education.

Four Recommendations Made

The following specific recommendations are made in this report:

—Young girls need to receive more realistic information from counselors, educators and parents to help them anticipate better the multiple roles they will have in life, and especially to assure adequate preparation for their probable work role. Improved guiddance materials and further conferences are needed, along with counselor retraining, to increase understanding of the new developments in women's working lives.

—Educators, training officers and government officials need to review their policies and practices to see that women have equal access with men to all types of education and training facilities.

—Employers—both public and private—need to make more extensive efforts to implement equal employment opportunities for women, in hiring and promotions to responsible and well-paying positions.

—In many localities where such assistance is lacking, specially designated counselors in public employment offices and CAP centers could help meet the special needs of mature women seeking to re-enter the work force—through counseling referral to training, placement, and other services. Increased provision of day-care facilities and housekeeping assistance to working mothers, and the possibility of more favorable tax arrangements to offset child-care expenses, also deserve serious consideration.

Training Scientific Secretaries

2:1 "Scientific Secretary Training Program Development" by John H. Swenson. Colorado University. 1968. 74 pages.

The impact of rapidly expanding scientific knowledge and its technical application is given as a major challenge to education. Secretarial education is no exception in the general trend toward greater specialty and complexity, as illustrated by the prior development of acceptable training programs to prepare persons for jobs as "medical" and "legal" secretaries.

The problem of this project was to determine whether or not there are special skills and knowledge required of the secretary working in a scientific setting and, if so, to determine whether or not an instructional program specifically designed to meet the specialized educational needs of scientific secretaries would, in fact, provide these skills and knowledge to persons with appropriate ability.

The following four specific objectives were established:

1. To determine the educational needs of those persons working as scientific secretaries in relation to the requirements of their employers.
2. To develop an instructional program to meet the educational needs of scientific secretaries.
3. To conduct a pilot training program to test the adequacy of the instructional program, including a follow-up evaluation of the trainees' on-the-job performance.
4. To determine the criteria and evaluative instruments for predicting the success of persons to be trained for employment as scientific secretaries.

Among the methods employed in determining the educational needs of scientific secretaries were the review of related literature, a survey of existing training programs, and a series of interviews and questionnaires administered to a selected group of science-related organizations.

The curriculum development project for the pilot training program included the following functions: Formulation of objectives; determination of course content; preparation of instructional materials, methods and techniques, and provision for evaluation and modification as the training program progressed.

For the pilot training program, 46 persons in the Denver-Boulder area were given 320 clock hours of in-class instruction and skills practice. Pre-test, post-test procedures, and evaluations by teachers and trainees were used to help determine the program's effectiveness. Finally, work supervisors were asked to rate the on-the-job performance of trainees.

Three main conclusions were drawn from the project:

—The special educational needs of scientific secretaries can be identified.

—A training program based on these special needs can be developed and conducted, and it does result in improved knowledge, skills and on-the-job performance on the part of

adult women trainees of above-average intelligence.

—It appears possible to predict accurately the degree of success which adult women will achieve in such a specialized training program.

Among the more significant implications for modification of existing educational and business practices cited were:

1. There is an increasing need for programs to train scientific secretaries, and it is not being met by established educational institutions.

2. An individual-study approach to providing in-service training in science and mathematics for currently employed scientific secretaries warrants consideration.

3. Both private enterprise and governmental personnel systems should develop job classifications for scientific secretary positions.

4. Eventually, top-ranked scientific secretaries may require up to 4 years of post-secondary school education.

Specific recommendations for improvement in the selection and grouping of trainees, scheduling, integration of instruction, emphases in mathematics, and the refinement and validation of predictive instruments were formulated.

Acquisition of Typing Skill

2:2 "EFFECTS OF INTERVAL PACING ON THE ACQUISITION OF TYPEWRITING SKILL" BY LEONARD J. WEST. NEW YORK CITY UNIVERSITY, N.Y. OFFICE OF RESEARCH AND EVALUATION. 1968. 38 PAGES.

This investigation was concerned with the acquisition of speed and accuracy in copying ordinary prose materials at the typewriter. Specifically, the objective was to assess the effects on the straight copy proficiency of persons at various levels of typing skill of self-paced versus externally paced practice.

Pacing, the report states, refers to governing the response rate — controlling the number of responses made within a given time or the time interval between responses. A self-paced task is one in which the operator sets his own response rate. External pacing refers to the imposition from without of some mode of guiding the operator to respond at a specified rate.

The experimental design involved 8 instructors and 16 typing classes in 4 New York City high schools. Each instructor taught one SP (self-paced) class and one EP (externally-paced) class, both classes at the same stage of training.

Classes at the three lower stages of training were drawn from general high schools that included a commercial program. Fifth semester students were from a vocational high school. It was reported that problems were encountered as a result of excessive student absences and the failure of many students to obey the rules of practice relating to the experiment.

Practice Schedule

The practice schedule in fall semester classes provided for a maximum of 65 five-minute practice timings—a total of 325 minutes—under either SP or EP conditions. The timings were distributed 4 a day over 20 consecutive school days.

The pacing practice materials consisted of 5 minutes' worth of ordinary prose paragraphs at each even-numbered speed from 16 through 76 words per minute. Efforts were made to control practice copy for difficulty via syllabic intensity.

Students were initially assigned either to speed or to accuracy practice on the basis of their pretest performance. Those who made no more than two errors per minute on the pretest began with speed practice on a paragraph one or two WPM above pretest gross speeds. Those who made more than two errors per minute were assigned to accuracy practice on a paragraph one or two WPM's below their pretest gross speeds.

All teachers in EP classes used stop watches. During the first few weeks, teachers announced the passage of each quarter minute. Toward the end of the program, the time interval was increased to one-half, and then each full minute.

Results Presented

In SP classes, on the other hand, there was no mediating announcement of time intervals, and copy was not marked internally. For SP students, all of the practice timings were for five minutes.

Results of the investigation are presented for criterion scores, analyses of adjusted post test scores, practice gains, student reactions, and reliability of two scoring methods.

Post test speed and error scores were subjected to covarience analysis (regressed on pretest scores), and no significant differences were found. "Self pacing and externally paced practice had equal effects at all levels of skill." However, the report indicated that possible differential effects of self-paced and externally-paced practice were swamped by disadvantageous practice conditions and rules applied to both modes of pacing.

"It is apparent that the two pacing modes are sensitive to distribution effects, and it is recommended that the pacing modes be investigated under conditions of greater distribution of practice, using practice gains that are less demanding, wtih provision for larger amounts of accuracy practice."

Clusters of Office Work Tasks

2:3 "CLUSTERS OF TASKS ASSOCIATED WITH PERFORMANCE OF MAJOR TYPES OF OFFICE WORK" BY EDWARD A. PERKINS, JR. WASHINGTON STATE UNIVERSITY. 1968. 210 PAGES.

The purpose of this Washington State University study was to identify clusters of tasks performed by a sample of office employees working in various sizes of offices in 12 Standard Industrial Classifications.

A proportional, stratified sample of 295 firms in the private sector and 28 government agencies was selected. In each Standard Industrial Classification (SIC) the sample was structured according to five office-size levels. The 12 SIC categories were: Agriculture; Mining; Construction; Manufacturing; Transportation; Communication and Utilities; Wholesale Trade; Retail Trade; Finance, Insurance and Real Estate; Services; Government; and Education.

A total of 767 questionnaires comprised of 599 office tasks, which had been validated by interviews with 286 office workers and supervisors, was distributed to firms and agencies constituting the sample. Total returns were 80.3 percent by private enterprise and 96.8 percent by government. Respondents were classified in six general occupational categories: supervision, secretarial-stenographic, clerical, bookkeeping-accounting, business machine operation, and data processing.

Differences in the percentage of employees within each SIC, and percentages in various size offices were computed. Analysis of data thus obtained supported two hypotheses:

1. There are significant differences in tasks performed by office employees in the various Industrial Classifications.

2. There are significant differences in tasks performed by office employees in small and large offices.

The report states that the 599 office tasks have been clustered within 13 major categories:

Typewriting	Financial & Record Keeping
Office Machines & Equipment	Securing Data
Dictation & Transcribing	Mathematics
Mailing	Clerical
Filing	Meeting & Working With People
Telephoning & Communicating	Miscellaneous
	Editorial

"Since these data represent the tasks performed by a typical office worker, the composite clusters can be used as a partial basis for a re-evaluation of the high school business curriculum, which is primarily concerned with the total realm of office work and not solely with the fitting of a graduate into a specific office job."

Five recommendations of the study are given . . . "To provide a more adequate base for providing up-to-date office education instruction."

1. Clusters of knowledges, skills and capabilities associated with performance of major tasks be identified. This research should focus on input data of at least two varieties: What the office worker sees his job as being, and what the internal resources and environmental conditions of the job are.

2. An in-depth study of office work in "Leading-Edge" firms be made to ascertain emerging charges in office structures and functions.

3. An analysis of the office education currculuim in today's schools be made and a comparison made between the research findings and current curriculum practices.

4. An instructional objective—derived model for office education be developed and that general and specific statements of instructional objectives be derived from many different sources of input data, including items 1-3 above.

5. Self-paced learning packages be developed and field tested and that design of these instructional systems be based on the objectives identified in item 4 above.

The Job Analysis Approach to the organization of instructional clusters,

which is exemplified in this investigation, should serve as a model for curriculum builders in office education. The information that there are significant differences in work patterns, depending on type of business organization and size of office, gives credence to the concept that each local program of office education should reflect some of the employment conditions of the community. Also, the five specific recommendations of the study seem to be especially relevant.

Pre-Service Education

2:4 "PRE-SERVICE EDUCATION OF OFFICE EDUCATIONS TEACHERS" BY DOLORES KILCHENSTEIN. TEXAS TECHNOLOGICAL COLLEGE. 1967. 78 PAGES.

The primary purpose of the four-week institute was to educate new office occupations teachers on the acquisition and application of skills and knowledge to enable participants to conduct vocational office education programs in their local schools. "In addition, each participant was expected to disseminate his institute experiences to office occupations teachers in his geographical area."

Criteria for the selection of candidates to the workshop included teaching experience in federally funded office occupations, college grades and credit in business education, office work experience, age, attitudes toward assuming a leadership role, and history of organizational affiliations. Forty participants from 29 states and one possession registered for the institute.

The institute program consisted mainly of 13 seminars, each conducted by a well-known figure in office education. The topics covered and seminar leaders were:

"The Office Occupations Student"—Samuel M. Greer, South Carolina
"The Office Occupations Program"—Bernard Schilt, Buffalo, N. Y.
"The Teacher of Cooperative Programs"—David A. Thompson, Texas
"Office Occupations"—Bruce Blackstone, USOE, Washington, D.C.
"Administration and Supervision of Office Occupations Programs—Everett W. Fuller, Texas
"Facilities, Equipment, Supplies, and Classroom Layouts"—William Seldon, Pennsylvania
"Office Machines Procedures I"—James R. Meehan, New York
"Cooperative, Simulated and Directed Programs"—James H. Wykle, USOE
"Office Machines Procedures II"—Robert J. Ruegg, Illinois
"Research in Office Education"—Harry Huffman, Ohio
"Office Systems and Data Processing"—Maxine King, Texas
"The Office Occupations Teacher"—Fred S. Cook, Michigan

Another phase of the institute was a series of practicums in which participants were divided into three sections of 13 to 14 persons each. Practicum sessions were conducted four days each week, and they were led by Texas Tech business education professors. The purpose of these sessions was to provide for the evaluation and practical application of theory and knowledge about office education. Of fundamental concern was the application of knowledge to each participant's local community.

During the course of the institutes, each participant was assigned five projects. These were scheduled to allow for a presentation and at least one follow-up session. Participants prepared the final copy of their projects to expedite reproduction.

The appendices of this report contain copies of magazine publicity in *The Balance Sheet* and *Business Education World*, sample application, evaluation and completion forms, and lists of program participants and state officials with supervisory responsibility for office occupations.

As the report does not contain transcripts of presentations or details of seminar and practicum proceedings, its reading value is limited.

Wage-Earning Occupations

2:5 "Evaluation Of Secondary School Programs To Prepare Students For Wage Earning in Occupations Related to Home Economics" by Helen Y. Nelson and Gertrude P. Jacoby. New York State College of Home Economics. 1967. 169 pages.

Introducing its report with the statement that home economics educators have had little experience with the incorporation of wage-earning programs in secondary school home economics, the Cornell University study had three main objectives:

1. To evaluate the progress of students enrolled in courses in home economics directed to wage earning.

2. To determine the relationship between extent of student progress toward course objectives and student success in obtaining and holding jobs.

3. To help provide, by means of descriptive data, answers to questions raised by secondary schools and teacher-preparing institutions regarding courses in which home economics is related to wage earning.

Pilot Programs Evaluated

The study dealt with the evaluation of 12 pilot programs in occupational home economics in New York State to train food service workers for entry-level jobs and child care center aides. "One portion of the study was primarily concerned with the evaluation of the pilot programs and with the refinement and development of instruments to implement the evaluation. A second portion treated the 12 classes as one sample of students enrolled in occupational education and investigated questions of general interest to vocational educators."

For several years prior to the present study many schools in New York State had asked the State Bureau of Home Economics Education for information about possible course offerings in occupational education. In a presentation at the National Clinic on Home Economics Education in 1966, Ruth Ellen Ostler of the State Bureau described the selection of the sample.

A list of interested schools was compiled. The schools selected to participate in this pilot program were taken from it. Twelve was the number established as the maximum number of schools to participate, and some criteria were developed to serve as a basis for selection. It was necessary that school districts participating agree to take the following action:

—Implement a course in Food Services Occupational Preparation or Child Care Services Occupational Preparation, the two areas in which curriculum materials are developed to the stage of experimentation.

—Cooperate as necessary in the Evaluation Research Project.

—Establish an advisory committee to guide and advise local program development.

—Select as the teacher of the course a home economics teacher who is interested in the concept of occupational education and has had working experience in the occupational field.

—Select as trainees, students who can (a) benefit from the occupational education program proposed; (b) will have reached legal employment age by the end of the school year, and (c) are interested in and possess ability to prepare for occupations in the service area for which training will be offered.

—Provide facilities necessary to achieve program objectives.

—Arrange for work experience in actual employment situations as an integral part of the program.

Ten Programs Established

Using these measures, eight local school districts and two area occupational education centers were selected to participate in the study. Nine classes were set up in 8 high schools and 3 in the area centers. Of the 12 classes comprising the sample, 7 prepared students for jobs in food service, 3 trained child care center aides, and 2 were "Home Economics 14" classes which provided limited experience in food service.

The report contains detailed descriptions of each of the 12 classes and it also presents a summary of the total population.

Ages in the sample ranged from 14 to 19, with a mean at 16.52 years. Approximately 69 percent were 16 and 17 years old, 17 percent were younger and 14 percent older. One hundred girls and 12 boys completed the course—including 10 ninth-graders, 18 tenth-graders, 37 eleventh-graders, and 47 twelfth-graders.

Student IQs were categorized into four ranges, with 9 percent above 110, 45 percent from 90-109, 34 percent 75-89, and 12 percent below 75.

Student scores in Stanford achievement tests and the High School Reading Test were found to fall well below normal: "When scores of the Stanford achievement were compared with norms for similar students the lowest scores on the numerical competence test were found to fall at the first percentile rank for eight classes. . . . Highest scores on numerical competence were no higher than the eighth percentile rank in one class, the sixteenth percentile rank in three classes, and the eighteenth percentile rank in another class.

Thirty-eight students, or one-third of the total sample, were considered by their counselors to be handicapped by poor physical or emotional health or by cultural background. Students carried considerable responsibility at home, some devoting many hours a week to child care, farmwork and housework.

Development of Instruments

A number of instruments were used to measure progress toward the objectives of the study. Some had been developed in earlier research projects and others were prepared expressly for this investigation. Previously developed instruments included:

—Attitudes toward work scale.

—Becoming Employable scale.

—Descriptive rating scale for measuring competence in a specific skill, that of waiter/waitress.

—Reactions to children of various ages.

Instruments designed expressly to meet the objectives of this study were:

—Three descriptive rating scales of a general nature to complete the series of four applicable to many entry-level jobs: *Becoming Employable,* which is the first; *Management; Safety,* and *Sanitation.*

—Descriptive rating scales, designed for use in conjunction with the four general scales to measure specific skills taught by the courses: Child

care center aide, dietary aide, family meal specialist, cafeteria counterman, short order cook, and cook's helper.

—Descriptive rating scales used as part of the follow-up of students into their jobs: Employer's rating of trainee, and trainee job satisfaction scale.

—Questionnaires and data sheets for collecting student background information from guidance counselors.

—Follow-up communications to both former students and their employers.

—Checklists of facilities desirable for training child center aides and food service workers.

—Forms for collecting pertinent data from teacher records.

Results

"Most students, by the conclusion of the programs, showed acceptable attitudes toward work and minimum employability characteristics and skills." The summary goes on to state that young people were shown to want to work and, indeed, to attach considerable status to being able to hold a job. Students expressed the general opinion, in individual interviews, that any occupational practice, orientation or work experience was helpful in preparing for jobs; but most prized was class experience closely meshed with paid work experience for an outside employer.

"Three-quarters of the students interviewed considered their generally strong background of basic home economics courses to be essential for success in occupational home economics classes."

Homemaker Services Film

2:6 "DEVELOPMENT OF A FILM ON HOMEMAKER SERVICES FOR INSTRUCTION TO THE PUBLIC AND TRAINING PROFESSIONAL AND NONPROFESSIONAL PERSONNEL" BY ALBERTA JACOBY. MENTAL HEALTH FILM BOARD, INC., NEW YORK, N.Y. 1967. 8 PAGES.

Homemaker service is a form of assistance provided by health and welfare agencies when a family or an individual cannot maintain living and household routines during a time of stress or crisis. The agency places a mature, qualified woman in the home. This person, called a *homemaker—home health aide,* works under the supervision of a caseworker, or a public health nurse.

The main objectives of this project were to develop a film for recruitment and training purposes; to carry out a utilization program to communicate information about homemaker services to a wide audience, and to use the film as a training aid.

Four main steps were taken in film making. First, the general focus of the film was determined: "In this case to develop a communications tool which could be used for training, and would therefore show approved practices in providing the services of homemaker-home health aides."

The second step was the determination of specific subject content of the film. This was accomplished by employing the combined resources of consultants, persons experienced in homemaker services and experts in film use and film production.

The actual making of the film, which was titled *Home Fires,* included research on content, script writing, photography, recording of narration, and laboratory work.

The final step in the program involved the film's field testing with various audiences and the writing and testing of the Discussion Guide. Representatives of the Woman's Auxiliary of the American Medical Association, homemaker organizations social work and nursing groups were asked to comment on the usefulness of the film. These statements have been incorporated into the final version of the Discussion Guide.

As pointed out in the summary remarks of this developmental project, the film presents three case-histories in an effort to give a comprehensive view of some important types of activity of homemaker services. The first situation shown is the home of an aged couple who would have to be institutionalized if homemaker services were not available. Then, there is the home with a large number of children where the mother is disabled and is being retrained to carry out her household duties. The third situation is a home with a mother who is under short-term treatment in a mental hospital.

Information about the availability of *Home Fires* has been disseminated to the following groups: The National Conference on Social Welfare; The Women's Auxiliary to the American Medical Association; The Ortho-Psychiatric Association; The American Nurses Association; The National Council on Homemaker Services Forum participants and members.

Perhaps the most significant aspect of this project is that it helps to show the way for vocational homemaking teachers to take on a greater realm of service and responsibility outside the confines of their laboratories and classrooms and into the community where they are so badly needed.

Child Development Training

2:7 "CHILD DEVELOPMENT TRAINING PROGRAM FOR VOCATIONAL HOME ECONOMICS TEACHERS" BY HELEN SULEK. NEBRASKA UNIVERSITY. 1967. 111 PAGES.

The immediate purpose of this University of Nebraska project was to conduct a workshop providing intensive training for selected vocational home economics teachers who, in turn, would set up occupational training programs for high school students seeking future employment as aides or assistants in child centers. Additional objectives were given: (a) To encourage the adolescent to remain in high school and to equip herself with a marketable skill, and (b) to make available a source of better trained aides and assistants for employment in day care centers, thus raising the standards of care provided for young children.

A 6-week summer workshop was conducted for 28 vocational home economics teachers from 20 states. The program included two courses at the graduate level: Human Development and the Family–the Child and Family in the Community, and Nursing School and Day Care Practicum.

Field trips were taken to such agencies as the Child Guidance Clinic, Family Service Association, State Department of Public Welfare, the State Home for Children, and the Nebraska Psychiatric Institute of the College of Medicine.

The latter portion of seminar sessions was concentrated on the preparation of trainees for setting up their own child care training programs, and the development of appropriate curricular materials.

When speaking of the program's results, the report states that trainees gained a better understanding of the adolescent, her orientation to the world of work, and her training for employment in child care services. Also, the trainees developed, through

cooperative efforts, an extensive compilation of materials for use in setting up a child care training program. These materials, which are contained in the report, cover three areas: The Child Care Training Program for Senior High School Home Economics Students; Orientation to Child Care Employment, and Development of Job Skills for Work With Young Children.

A follow-up evaluation of the program, derived from progress reports submitted in December, revealed that nine of the communities represented by trainees had child care training programs in operation. Another three districts planned to initiate programs the following year, and six more indicated a need for further planning prior to the eventual development of a child care training program at the secondary level.

In concluding remarks is the statement that there is a growing need for child care training programs at the high school level, both from the standpoint of preparing the adolescent girl for employment and of providing a greater supply of well-trained child care workers. It was also concluded that a six-week summer workshop is a minimal but practical and effective means of preparing teachers.

It is hoped that the child care programs for senior high school home economics students which are developed will, whenever possible, incorporate a fundamental precept of sound vocational education—live work. To study the care of children in theoretical terms leaves out the most vital part, the interaction between small children and young women. What are needed then are many more child care centers for working mothers, conducted by school systems. These centers would provide an important community service and, at the same time, they would give both students and teachers an excellent learning laboratory.

TOPIC THREE: Food Service Occupations

Curriculum Development

2:8 "STATUS OF CURRICULUM DEVELOPMENT IN THE FIELD OF COMMERCIAL FOOD AT THE NON-BACCALAUREATE LEVEL" BY MILDRED B. BARNARD. COUNCIL ON HOTEL, RESTAURANT AND INSTITUTIONAL EDUCATION, ITHACA, N.Y. 1967. 167 PAGES.

This project reports the result of a national survey of nonbaccalaureate commercial food programs. The study had six specific objectives.

—To locate existing programs of training for food preparation and service, and to collect and review their statements of philosophy and patterns of organization.

—To collect instructional materials now used in those programs.

—To study intensively the programs of six selected high schools representing four approaches to this type training.

—To prepare suggested organizational patterns for schools planning to develop programs.

—To prepare basic curriculum materials and make them available to interested schools.

—To survey instructional practices employed and make them available to interested schools.

The Council on Hotel, Restaurant and Institutional Education (CHRIE), recognizing the need for a clearinghouse of information about commercial food training, was involved in the initiation and conduct of this study.

Speaking of changes in supply and demand of food workers, the report cites the long dependence on European trained chefs and "food artists" who, in turn, trained others. As long as there was an adequate supply of European craftsmen who were prepared by a rigorous program of apprenticeship, little need for training was seen in America. As immigration restrictions shut off the supply of Europeans, it became apparent to the hotel and restaurant operators that home-grown solutions to the problem would be needed. At an earlier period, the European system of apprenticeship was tried, but it never gained wide acceptance. Now, the emerging position of Technical Cook is described. This person, according to the report, can develop standard recipes and adapt himself to new methods of cooking, particularly for a growing segment of the industry, institutional and chain restaurant operation.

Among the findings of the survey, most significant is the one that the small number of existing programs could not possibly meet the growing nationwide needs of the hospitality and service industry. Although there has been more growth in the past 2 years than in the previous 20, it was noted, the need remains crucial.

Other important findings were:

—No one type of organization within the high schools was found to be superior to another in preparing students for industry.

—The many levels of employment opportunities in the hospitality and service industry can accommodate many and varied abilities.

—Changing demands of the food industry have resulted in a shift in emphasis on training for chefs and food production personnel. Technical advances and new products reduce dependence on the "old time" chef. The growing segment of our industry encompassing fast food — institutional and chain operations—requires the technically trained person with adaptability and versatility.

—There is a dearth of help readily available for teachers and administrators in these programs.

This investigation points out a most serious weakness in the Federal Administration of Vocational Education. That is its failure to develop large-scale national or regional curriculum development laboratories, units which have the budget, technical competence, stability and stature to continually assess the needs for vocational instruction in various occupations and to develop, revise and update appropriate curriculum guides and materials.

Work Instruction Programs

2:9 "WORK INSTRUCTION PROGRAMS FOR THE FOOD SERVICE INDUSTRY" BY THE DEPARTMENTS OF INSTITUTIONAL MANAGEMENT AND INDUSTRIAL ENGINEERING, KANSAS STATE UNIVERSITY. 1967. 53 PAGES.

"The Food Service Industry now has a working force of about three million. An acute shortage of skilled employees exists and many expect the problem to increase as hospitals and food services expand. The National

Restaurant Association estimates the food service industry will create 75,000 new jobs each year and will require 150,000 replacements annually." These remarks set the purpose for the Kansas State University project to develop instructional programs for the food service industry.

Two specific objectives were given: To develop efficient work methods for 100 typical tasks performed by employees for the cluster of occupations in the food service industry, and to develop programmed learning media for communicating these methods to employees.

Questionnaires on food industry needs, together with an example program which included slides, a quiz and script, were distributed to 500 members of the National Restaurant Association, 50 school lunch managers, 50 hospitals having members in the American Dietetic Association, and 50 college and university residence halls. Also contacted were 150 vocational-technical schools which were conducting food service programs.

Returns on the questionnaires were disappointing. "Sixty five percent of this select sample didn't even return the slide programs even though they had a stamped addressed return envelope in their hands. Another 15 percent returned the programs with an unanswered questionnaire; most just answered what types of programs they wanted. . . . The questionnaire seems to have been a waste of time and effort, although it did point out the lack of effectiveness of direct mail as a method of obtaining information from the industry."

The original concept of the project had been short, highly specific self-instruction programs that were very pictorial, i.e., 35 mm colored slides with no sound. It was discovered that as programs were developed they could effectively communicate the "how" of a task; the "why," however, was not easy to demonstrate pictorially. Because of this, a script was developed which would be read either by the trainee or the teacher.

It was recommended that, inasmuch as many restaurants and institutions did not have slide projectors available, a booklet of color photographs could also be developed.

Ten program topics were completed:

Dipped Salad Assembly
Cleaning a Meat Slicer
Making Salad Sandwiches
Making Meat Sandwiches
Making Change
Breading Foods for Deep Fat Frying
Frosting a Cake
Cutting a Cake
Portioning Pudding
Cutting a Pie

Each of these programs is available at cost ($7 apiece) from Department of Institutional Management, Kansas State University, Manhattan, Kan.

TOPIC FOUR: Career Opportunities in Health Services

Illinois Program

2:10 "PRACTICAL NURSING IN ILLINOIS: A PROFILE" BY ROBERT TOMLINSON. ILLINOIS UNIVERSITY, ILLINOIS STATE BOARD OF VOCATIONAL EDUCATION. 1967. 172 PAGES.

This is the first of five planned publications to present research materials developed from a basic project entitled *An Integrated, Longitudinal Study of Practical Nursing.* The basic study gave attention to the nature of the population of practical nurses in Illinois and Iowa, their employment patterns and preferences, the recruitment and selection of PN students, and the programs through which they were prepared.

The purpose for this report is stated to describe conditions, assess numbers and draw a profile of practical nursing in Illinois. Speaking of the situation in which many competing organizations and educational institutions are involved in health services education, with the resulting fragmentation of program and duplication of effort, the report calls for a much more systematic approach.

The report's main divisions include a historic review of nursing education in Illinois, statistical data depicting the number, geographical location, mobility, and other characteristics of practical nurses licensed in Illinois, patterns of employment and unemployment, and a section devoted to summary statements and conclusions.

A 10 percent sample of all persons who ever obtained a practical nurse license in Illinois was obtained. The number was 1,435. From this group, a sub-sample of 1,160 persons, or 80.8 percent, had active licenses. These were the persons who were used as the basis for gathering information. This group was categorized on three primary variables: Currency of license, in-state or out-of-state residence, and educational basis of licensing.

Important indicators from data obtained show that a high proportion of LPN's in Illinois were born out-of-state and moved to Illinois both before and after PN education. "They are highly stable individuals who tend to remain in the same geographic area where PN education was obtained and to have an exceptionally high rate of employment in all services and types of health institutions.

The summary section speaks of the very high return on investment of practical nurse education and the implications of this fact on other forms of health service education. "The application of resources to practical nurse education in Illinois has probably returned a greater dividend in health care per unit investment than in any other area. Returns have occurred at federal, state, community, and health-facility levels as well as to the individual participating in the program. . . . Relatively small previous investments in practical nursing education have paid handsome dividends; additional support on a broader scale to all health occupations may well return in equal or greater proportion."

Bio-Medical Equipment Technology

2:11 "DEVELOPMENT AND EVALUATION OF EDUCATIONAL PROGRAMS IN BIO-MEDICAL EQUIPMENT TECHNOLOGY, PHASE I" BY TECHNICAL EDUCATION RESEARCH CENTER, INC. 1967. 160 PAGES.

The language of this investigation would lead the reader to assume that all of the various types of jobs in the bio-medical equipment technology field will be filled by men. Yet there is little evidence to justify why this should be. Certainly, the proposed training program and the nature of

the work performed should offer no special obstacle to women. The report is presented here mainly as an example, to remind those who have concerns for the vocational education of women that there are many emerging job opportunities that call for technical knowledge and skill, rather than muscle power.

Recent advances in the fields of electronics and instrumentation have resulted both in the acceleration of medical technology in terms of equipment and procedures, and the creation of a need for people able to understand and effectively utilize these new gains. A need for technicians capable of servicing and maintaining the bio-medical equipment used in hospitals and medical research institutes, the report states, has opened up a new area of employment—one which requires its personnel to be trained specifically to meet its needs.

Indicating that few educational programs now exist to prepare men specifically as bio-medical equipment technicians, the report proposes that the lack of qualified personnel may impair the quality and efficiency of the nation's health services.

The purpose of the project was threefold:

—Assuming that there is a need for bio-medical equipment technicians, the extent of that need must be determined.

—Specifications of the need: Location and extent of employment opportunities, specific job functions and characteristics.

—Design of a preliminary framework of a curriculum which will adequately prepare BMETs.

Little Research Done

A preliminary survey strengthened previous impressions that little, if any, relevant occupational research has been done and that few formal educational programs exist. "These technicians at work in the field typically have either electronic, electrical or instrumentation backgrounds. They lack training to varying degrees in the basic educational subjects underlying this multi-disciplinary technology. Their on-the-job training is usually restricted to providing them with proficiency in specific equipments of interest to their employers."

In view of the lack of existing occupational information and tested instructional materials, it was concluded that it would be premature to publish a curriculum guide until further pilot testing and evaluation had been accomplished. Rather, it was decided that primary effort should be focused on such items as emerging employment opportunities, job functions and other characteristics of bio-medical equipment technicians. The objectives of the project were, therefore, modified to the following:

1. To determine by means of occupational research the employment opportunities for bio-medical equipment technicians and to identify the functions and other characteristics of such technician.

2. To develop a preliminary curriculum outline or structure for post-high school educational programs in bio-medical equipment technology.

In order to achieve these objectives a field study was designed. Structured interviews were held officials in the six New England States, New York, New Jersey and Pennsylvania. The sample comprised three major groups of prospective employers of BMETs: hospitals, bio-medical equipment manufacturers, and medical research institutes.

Field Study Results

The field study results are reported in two parts, "Need for and Characteristics of BMETs" and "Preliminary Curriculum Outline for BMETs." Analysis of data obtained led to the following conclusions:

1. There is a current need for between 1,350 and 1,450 technicians to service and maintain bio-medical equipment in the New England and Mid-Atlantic regions.

2. This need, projected to 1970, increases to between 3,200 and 3,700 BMETs.

3. The greatest opportunity for employment is with manufacturers of bio-medical equipment, although the more sophisticated jobs are found in hospitals and research institutes.

4. There are four general job types that a BMET will fill:

(a) Rudimentary service and maintenance under close supervision by the production manager in the manufacturer setting or the chief engineer in the hospital setting, and providing an average salary of $6,800.

(b) General service and maintenance requiring greater competencies not only with respect to the quality of his work, but also with respect to the number of tasks expected of him, and supervised to a greater degree by professional people and providing an average salary of $7,400.

(c) Sophisticated service and maintenance that would involve design and modification of equipment almost exclusively under the supervision of professional people and providing an average salary of $8,400.

(d) Sales-oriented service under the supervision of the sales manager, and providing an average salary of $9,000.

5. At present, there are people currently engaged in the service and maintenance of bio-medical equipment. However, the following impressions resulted from the discussions of this aspect were that a part of the interviews.

(a) The demand for technicians greatly exceeds the supply and the situation will get more pronounced with time.

(b) Those technicians now servicing and maintaining bio-medical equipment have typically been drawn from a variety of backgrounds, primarily either electrical, electronic, or instrumentation. Virtually none have been formally trained in the service and maintenance of bio-medical equipment. A considerable period of on-the-job training is typically required.

6. The technician capable of filling the existing and developing employment opportunities for BMETs identified by this field study will be a new type of technician. His preparation will require a new type of interdisciplinary curriculum.

Three Specific Recommendations

Three specific recommendations were made:

—Educational programs in bio-medical equipment technology should be planned and implemented to provide a minimum of 2,000 BMETs per year, beginning as soon as possible.

—Because of the unique curriculum requirements of this emerging technology, schools cannot expect to develop adequate programs for BMETs by utilizing combinations of existing courses and instructional materials

without making major modifications and additions.

—A continuing, intensive research project can and should be carried out, based upon the occupational information developed in this project, to systematically develop, pilot test, and evaluate degree type of curriculum for BMETs. The curriculum should be broadly generalized to be applicable to many post-secondary institutions.

Mental Health Nursing

2:12 "MENTAL HEALTH AND PSYCHIATRIC NURSING IN PRACTICAL NURSE EDUCATION" BY ANNIE L. CRAWFORD. SOUTHERN REGIONAL EDUCATION BOARD, ATLANTA, GA. 1967. 52 PAGES.

The two-week clinical workshop and three-day follow-up conference described in this report were designed to promote improvement and expansion of mental health and psychiatric nursing in practical nurse schools of 14 Southern States. The project was initiated in response to statements of need by administrators of psychiatric services and requests of practical nurses.

According to the report, recent developments in treatment programs have made the need for pre-service instruction in psychiatric nursing more explicit and urgent. "Extensive use of drugs in treatment requires nursing personnel qualified to administer medicine and to observe and record changes occurring in patients who are receiving drugs. Increasing numbers of psychiatric patients are being treated in general hospitals and other community facilities, including nursing homes. Substantial numbers of licensed practical nurses are already employed in these facilities. The demand for many more is well illustrated in reports and recommendations which have been published recently."

Two objectives for the program were established: To instruct teachers of practical nurse students with recent developments in knowledge, attitudes and skills in psychiatric nursing, and to develop educational objectives, curriculum, instructional materials, and procedures for use in teaching mental health and psychiatric nursing to practical nurse students.

Thirty participants in the training program were directors and instructors in schools of practical nursing from the states participating in Southern Regional Education Board Mental Health Training and Research Program. The faculty was comprised of three specialists in psychiatric-mental health nursing and three clinical instructors. Professional staff members of Western State Hospital and De Jarnette Sanitarium also participated in the teaching.

Trainees were given clinical practice assignments with hospital patients. They also attended and participated in lecture discussion sessions and treatment program activities; worked with instructors to develop objectives, content, methods and materials; made plans for identifying and organizing clinical experiences for instruction of students, and planned workshops and activities to assist instructors to update knowledge and skill in their respective states.

Five months later, trainees reassembled for a follow-up conference. They reviewed problems encountered in implementing workshop plans, identified needs and resources and made recommendations for further action.

Progress Measured

The NLN Achievement Test in Psychiatric Nursing was administered at the program's initial assembly. "More than a third of the trainees had no previous basic instruction in psychiatric nursing. The basic preparation of more than half of the others had been 15 to 25 years previously. Members of the faculty felt that some appraisal of trainees' current knowledge of mental health and psychiatric nursing theory and practice would help individuals and faculty assess needs and plan content and learning experiences necessary to accomplish project goals."

The test was repeated the last day of the workshop, and substantial gains in percentile rank were obtained. Examples of change given in the report are: 04 to 23, 05 to 32, 14 to 77, 19 to 61, 41 to 96, and 79 to 98. The increase in the median percentile rank for the group was 30.

Other accomplishments of the workshop were reported. These included the preparation of instructional materials for use in psychiatric nursing and the organization of the following specific recommendations:

—Teach mental health and psychiatric nursing concepts in all practical nursing programs.

—Ask psychiatric nurse leaders and other mental health professionals in the community to assist with curriculum planning.

—Plan and structure field trips to local mental health agencies to insure positive outcomes and desirable learning.

—Make effective use of literature, films and teaching aids available through mental health agencies. Identify mental health services available within the community.

—Initiate the planning, by the workshop participants, of a series of workshops, to upgrade knowledge and ability of all instructors in the state to teach mental health concepts. Invite professional and practical nurse organizations to join in sponsorship and planning.

—Seek vocational education agency interest and support for inservice education to update psychiatric nursing knowledge for nursing service staff members in areas to which students are assigned.

—Make available a list of postgraduate programs in psychiatric nursing for licensed practical nurses.

—Encourage employment opportunities for licensed practical nurses in psychiatric nursing services and inform students about them.

—Plan regularly scheduled continuing education for instructors in practical nurse education programs to keep knowledge and skill current.

—Plan an additional follow-up session for this workshop in about a year to further evaluate success in implementing the projects which have been initiated.

Health Technology

2:13 "INVESTIGATION TO PRODUCE GUIDELINES FOR HEALTH TECHNOLOGY PROGRAM PLANNING" BY CAROL KAHLER. 1967. 37 PAGES.

The objective of this project was to promote increased use of two-year collegiate institutions for the preparation of personnel in health technologies through the development and dissemination of a set of guidelines.

The study was undertaken by a joint committee comprised of National Health Council and American Association of Junior Colleges representatives. Their first step was the identification of problems which have acted as deterrents to the development of health technology education programs. Problems thus identified were:

—Junior college programs hastily conceived, without needed preliminary planning.

—Junior college programs with limited job success for graduates. Because professional standards were at variance with program content.

—Unidentified roles for technicians within many professions which apparently need auxiliary personnel.

—Unclear educational requirements for technicians or requirements which are not geared to junior college curricular patterns.

—Insufficient or unsatisfactory relationships between clinical facilities and educational institutions.

—Program accreditation problems, especially for the junior college with multiple health programs.

—Problems of critical need for instructors and of need for expanded teaching resources.

—Hesitancy of students and colleges to enter some health technology fields if progression to higher levels of education and employment appeared impossible.

—Misuse of associate degree graduates through assignment of responsibilities beyond those for which their training had prepared them.

Committee discussion highlighted the various domains of authority affecting the education of personnel in health occupations. Examples given include the following.

Hospitals, clinics, laboratories, professional schools (especially dental schools) had traditionally educated their own auxiliary personnel.

Some medical and dental auxiliary personnel had faced hardships in moving from apprentice backgrounds; thus, fields often contain workers with an unusually wide range of academic education.

In some instances manufacturers of technical equipment provided the only source of instruction for personnel. This was particularly true in areas with a rapidly developing technology and great personnel shortages.

Some junior colleges with multiple health programs questioned the baccalaureate tradition of "program approval" in public health fields. The absence of any decision by the National Commission on Accrediting about program approvals within junior colleges served to increase anxiety concerning the ultimate decision.

Advocates of increased amounts of general education potentially challenged wage scale arrangements, especially with present conditions of health facility personnel shortages.

In response to public need, state and federal authorities for protection of public health were taking a stronger position in urging the growth of educational programs.

The instrument, *A Guide for Health Technology Program Planning*, was reported to be in publication. It was suggested that distribution would take place through the National Health Council and the American Association of Junior Colleges.

There are several very important lessons for the educator in this report, especially those who plan to initiate health technologies programs for the first time. One, it is imperative to know and work in close harmony with the professional service that is primarily responsible. Failure to do so will surely lead to grief. Also involved must be the various employing agencies, such as hospitals, laboratories and units of government.

The educational institution must be thoroughly familiar with all of the regulations, policies and practices that will apply to their graduates, and know them before the curriculum is developed.

Yet another reminder: if supervised clinical practice is to be an essential part of the instructional program, all details of this practice, together with a formal contract of affiliation, should be worked out before students are admitted for training.

Medical Records Technician

2:14 "A Comprehensive Project To Develop a Complete Curriculum in the Area of Medical Records Technician" by Robert L. Love. New York State Agricultural and Technical College. 1968. 99 pages.

This project was developed with three main objectives: (a) to carry out a nationwide study of needs in the field of medical technology; (b) to develop a curriculum for medical records technicians, and (c) to explore possible hospitals to be used as part of an "extended campus."

The purpose of the national survey of hospitals was to obtain reactions with respect to a two-year medical records technician curriculum and to determine their anticipated employment needs. The investigation was carried out by surveying the following:

1. A total of 330 hospitals in eight Eastern states: Connecticut, 64; Maine, 41; Maryland, 56; Massachusetts, 60; New Hampshire, 7; Pennsylvania, 55; Rhode Island, 25. and Vermont, 22.

2. Ten hospitals in each of the other 41 states, excluding New York.

3. Three hundred hospitals in New York State.

Each hospital received a questionnaire designed to gather data concerning such conditions as present and future employment, salaries, hours of work, accreditation and licensing requirements, and the hospital's suggestions as to college courses for medical record technicians. Responses were received from 503 hospitals.

The report states that the 1965 Guide Issue of the *Journal of the American Hospital Association* listed 7,127 hospitals. Assuming that the 503 hospitals responding to the survey questionnaire are a representative sample, the study projects a current staff of 18,000 persons employed as medical records technicians. Further projections indicate that another 9,810 technicians, an increase of 54 percent, will be needed by 1975.

"One of the major concerns of the American Association of Medical Record Librarians, and also of various local medical record librarian associations, is the lack of educational programs designed to prepare qualified medical record technicians."

Suggested Curriculum

The questionnaire asked the hospitals to specify which of a list of 12 courses should be included in a medical record technology curriculum. Responses were as follows:

	Course Title	*Percent of Hospitals Suggesting Inclusion*
1.	Filing	94%
2.	Anatomy and Physiology	92%
3.	Typing	85%
4.	Business Law	85%
5.	Medical Terminology	63%
6.	Office Machines	62%
7.	Mathematics	59%
8.	Data Processing	48%
9.	Accounting	43%
10.	Manual Shorthand	37%
11.	Machine Shorthand	15%
12.	Machine Duplication	12%

Using this data as supporting evidence, and incorporating the general education requirements of the State University of New York, the following curriculum was developed. (*See chart in adjacent two columns.*)

MEDICAL RECORD TECHNOLOGY

Major Field	General Studies	Others
REQUIRED—38 Hours	REQUIRED—35 Hours	REQUIRED—16 Hours
Mrs. 103 Med. Rec. Sci. I	Eng. 103 English I	Data 253 Data Processing I
Mrs. 203 Med. Rec. Sci. II	Eng. 203 English II	Data 414 Computer Program
Mrs. 303 Med. Rec. Sci. III	Eng. 303 English III	MSD. 101 Orientation
*Mrs. 216 Med. Rec. Sci. IV	S.S. 403 Prin. of Econ.	**Sec. 182 Typing I
Mrs. 405 Med. Rec. Sci. V	S.S. 503 American Gov't.	Sec. 282 Typing II
Mrs. 505 Med. Rec. Sci. VI	S.S. 603 Intern'l. Rela-	Sec. 382 Typing III
Mrs. 605 Med. Rec. Sci. VII	Bio. 404 Anat. & Physiol. I	Spch. 312 Speech
Mrs. 113 Med. Terminology and Machine Transcription	Bio. 504 Anat. & Physiol. II	Math. 513 Statistics
Mrs. 312 Med. Machine Transcription	Psych. 123 General Psychology	
	Psych. 223 Human Development	

*MRS. 216 Medical Record Science IV: All students will work a minimum of *ten weeks* in a college approved hospital medical record department during the summer quarter between the first and second years. This will be supervised by the hospital and the college. Students will be given a list of the hospitals and a certain degree of selection will be available.

ENTRANCE REQUIREMENTS

1. One year Biology
2. One year Math
3. Typing would be helpful but not required

GRADUATION REQUIREMENTS

1. Minimum total credit hours—98
2. Minimum cumulative index—2.0
3. Departmental recommendation

**High school record determines placement in typing courses.

Teacher Education Institute

2:15 "MEDICAL LABORATORY ASSISTANT TEACHER EDUCATION INSTITUTE—PILOT PROGRAM" BY REX D. COUCH. NATIONAL COMMITTEE FOR CAREERS IN MEDICAL TECHNOLOGY, WASHINGTON, D.C. NATIONAL COUNCIL ON MEDICAL TECHNOLOGY ED., MEMPHIS, TENN. 1968. 108 PAGES.

This program's purpose was to design a plan to update and upgrade instructors of medical laboratory assistants, and to develop a teacher education curriculum. An initial step was to conduct a pilot teacher education institute. This institute, held at the University of Tennessee for 16 teachers, was conducted to: (a) Develop confidence and competence of participants through involvement with new educational techniques; (b) help promote the realization that teacher education is a continuous process, and (c) use accepted testing and observation techniques to determine participants' progress.

A planning group, comprised of pathologists, medical technologists and educators, established criteria for selecting candidates to the institute, and worked on such other aspects of the program as program objectives, instructional content and evaluation.

An eight-step process of training was used to plan the institute. These steps were: Develop job standards, identify needs, establish objectives, develop curriculum, select method and techniques, obtain instructional resources, conduct the training, and evaluation and feedback—a component applied to all other steps.

The institute program was organized in accordance with topics that included developing program objectives, role of the instructor, psychological factors of teaching and learning, teaching methods and techniques, group dynamics and communications, and occupational analysis procedures.

It was decided that if participants were to be assisted in developing their own teaching in terms of behavioral objectives for their students, the institute should be conducted with the same approach. It was suggested, therefore, that all learning areas should culminate in an activity where each participant could demonstrate achievement.

The primary purpose of the time devoted to the areas of writing learning objectives and career planning was to learn through participation. A self-analysis of a concept of teaching-learning was required of each person enrolled. "Time was devoted to developing the requirements of a well-conceived plan for learning, the foundation of which should be well-defined learning objectives stated in behavioral terms."

In the remainder of the institute, an attempt was made to maintain a balance between theory and practice in content, between student activity and lecture-demonstration in methodology. In the sessions devoted to practice teaching and to the use and preparation of visual aids, considerable student participation was reported. Micro teaching was used as a learning technique during these practice teaching sessions.

When evaluating the program, participants recognized that the institute was mainly about teaching rather than the technical aspects of the subject. However, they seemed to feel that the instructors in such an institute should be able to help somewhat in the transfer of teaching principles to the particular subject field involved. In their suggestions they made frequent mention of the need for examples from the field of medical laboratory assistants. They also suggested that instructors observe medical laboratory assistants in action, to show how teaching techniques could be used in medical laboratory assistant teaching situations.

Subprofessionals

2:16 "THE SUBPROFESSIONAL—FROM CONCEPTS TO CAREERS" BY EDITH F. LYNTON. NATIONAL COMMITTEE ON EMPLOYMENT OF YOUTH. 1967. 186 PAGES.

The three-day conference to expand and develop subprofessional rules in Health, Education and Welfare, conducted by the National Committee on Employment of Youth, had as its prime purpose the consideration of how to move the employment of subprofessionals from concept to greater actuality. It was attended by 66 persons chosen for their leadership and experience.

The report consists of a summary of discussions, an evaluation of conclusions reached in these discussions and recommendation for the next steps needed for the use of subprofessionals in human-service occupations. In addition, the report contains advance papers prepared for participants, summaries of individual workshop sessions, tests of panelists presentation, and the list of attendence.

Among the topics treated in prepared presentations are those which relate to the current status of permanent subprofessional employment, education and careers in human service, the community action program model, and selected models of subprofessional careers. Workshop sessions dealt with such items as needed changes, obstacles to change, overcoming obstacles, and recruiting, selecting and developing subprofessionals.

According to the report, the title "subprofessional" has as yet no clear and consistent meaning. "A superior title is still in the offing. For the present, subprofessional is working title defined by the following principal characteristics:

Subprofessional jobs consist of subsections of work, heretofore done by professionals, for which full professional training is not necessary, or of new functions that expand the scope of professional service.

The jobs are designed at the entry level so that persons with less than the training or the academic credentials that usually accompany professional status can, in relatively short periods, become sufficiently skilled to perform the work.

The jobs allow opportunity for individual development, regardless of traditional credentials or other arbitrary symbols of status, and permit advancement to duties of greater challenge and responsibility.

Advancement is accompanied by increments of earnings and access to promotional avenues not dependent exclusively on full-time formal training financed by the individual.

Within the general focus of the study, three major groups of issues were considered. The first dealt with how subprofessionals should be employed. "Should a teachers aide, for instance, or a nurse's aide, be a handmaiden to the individual teacher or nurse, or could employment of auxiliary personnel become a stimulus for a new and improved division of labor in education, or in health?"

The second issue-complex consisted of the internal and external arrangements needed for establishing subprofessional service careers. "What changes were needed in budgeting, in personnel policies and practices, and in the positions taken by professionals? What modifications were required in existing statutes, and what new legislation was needed? What obstacles in civil-service structure and union agreements needed to be overcome? What steps could be taken, and by whom, to break down the barriers to effective manpower innovation? Where were the funds to come from?"

The third set of issues involved the supply of subprofessionals. "The disparity between the theoretical conceptions of subprofessionals and the realities of the initial efforts to create jobs for them suggested that a concepted base needed to be developed and refined."

TOPIC FIVE: Women in Industry

(See Studies in Process in Bibliography.)

TOPIC SIX: Career Patterns For Women

Women's Work Patterns

2:17 "IMPLICATIONS OF WOMEN'S WORK PATTERNS FOR VOCATIONAL AND TECHNICAL EDUCATION" BY SYLVIA L. LEE. 1967. 80 PAGES. "IMPLICATIONS OF WOMEN'S WORK PATTERNS FOR VOCATIONAL AND TECHNICAL EDUCATION", "ANNOTATED BIBLIOGRAPHY." 1967. 36 PAGES.

This report is the result of a project devoted to the implications of omen's work patterns for program planning in vocational and technical education. It was developed in order that persons in vocational education (a) know more about labor force participation of women, and (b) consider the implications of this information in planning.

The Kaufman study of the *Role of Secondary Schools in the Preparation of Youth For Employment*—which reported that the fundamental weakness of vocational offerings for females was the limited number of options—is cited to illustrate the existance of a serious problem. "Few girls recognized that they were likely to be working sometime during their lives and were not aware of their probable vocational careers. In contrast to this, it is reported that 9 out of 10 women will work at paid employment sometime during their lives, that single women will work an average of 40 years and that married women will work on the average of 23 years."

(The *1965 Handbook on Women Workers* (U.S. Department of Labor, Woman's Bureau, 1965 Handbook), and the 1963 Report of the President's Commission on the Status of Women, *American Women*, are given as sources of additional information.)

The report reproduces a series of 42 graphical presentations of data, mainly derived from the U.S. Department of Labor, Bureau of Labor Statistics. Then, it presents a chapter titled "Implications For Vocational and Technical Education." Important topics dealt with in this section are images and attitudes, the educational system in-

cluding existing programs and new possibilities, and vocational guidance and counseling.

In connection with the roles of women, questions were raised about the possibility of discrepancies between what women are and what they should be. "In learning about the choices women make, does it have to be a choice between marriage and a career? Could it be a combination of the two? Has the planning of educational programs provided for a variety of roles? Have we educated for choice? What is the balance among family responsibilities and employment? Have we taught that many roles may be incorporated into one lifetime?

"In view of the number of women entering or re-entering the Labor Force in their 30s and 40s, can we make it socially *acceptable* for a woman to go back to school to learn skills or update those learned previously? Could we emphasize less sex differentiation. . . . Does equality mean sameness?"

A major problem in the image of work for women, the report states, is that the language used is largely borrowed from discussions of men's work patterns. In the middle of a shift from women not working outside the home to increased employment for women, it is suggested that some of the stan-

"PLAIN TALK"

A FUNDAMENTAL WEAKNESS in vocational education for girls and women has been the limited number of options open to them. In a period when women comprise nearly 40 percent of the work force, when 9 out of 10 women will work at paid employment sometime during their lives, and when a great number of new careers in emerging technical fields are begging for qualified personnel, the need for concern should be self-evident. It is indeed encouraging, therefore, that many of the research projects reported in this issue are directed toward the expansion of career opportunities for females.

Fifteen of these studies are subject oriented. They include programs in scientific secretarial work, psychiatric aspects of practical nursing, medical recordkeeping, child care, and the preparation of home service workers. Also treated are investigations into two occupations that have not been closely associated with women's work: quantity food preparation and bio-medical equipment technology. These are presented here as examples representative of a large and growing group of occupations which appear to offer career opportunities for female workers.

Significant by its absence was research on the role of women in various phases of trade and industry. Although a great many women are now working in industry in a broad spectrum of operative, skilled and technical jobs and many of the older taboos against women workers are disappearing, the amount of research by educators has been very sparse. To find research directed to the vocational education of women in industry, it is necessary to get to other sources, particularly the Women's Bureau of the Department of Labor. Maybe HEW needs an equivalent counterpart.

The studies in health and medical categories document the severe shortages of trained personnel and the urgent need for wide-scale curriculum development activities in the field of emerging technologies. Some of the conditions and problems associated with para-professional health services, which are cited in Kahler's investigation to produce guidelines for health technology program planning, should be especially valuable to the administrator who plans to initiate new programs in health service fields. Certainly, he should understand the basic precept that all steps in program development must be accompanied with close and continuing consultation with the parent professional organization, and with all institutions and associations that would have interests in the program.

The Perkins investigation into clusters of tasks associated with performances of office work is a valuable source of guidance in business education. The job analysis approach to curriculum building, together with the establishment of job clusters designed for individualized instruction, has implications for both policy and practice.

The University of Nebraska project to prepare teachers in child development calls attention to a realm of home economics education which has a great potential. Day care centers for working mothers conducted by local school authorities have proven to be excellent vehicles for combining community service with live educational experience. Many more are needed. Another important trend in home economics education is the growing emphasis on field service activities, through which the knowledge and experience of home economists are imparted to sections of the community where they are most effective. Community home service work, needless to say, has its share of problems, but it also presents a great and challenging opportunity to make important contributions at the growing edge of social change.

The study of implications of women's work patterns for vocational and technical education, conducted by Sylvia Lee, is an especially important document. It calls attention to the growing importance of women in the work force, the limited range of vocational education opportunities typically available to them, and the general failure of guidance to fully appreciate and provide for the unique counseling requirements of high school girls. The multiple roles of women—housewife, mother and worker—and the need for vocational education opportunities at various levels of maturity are also studied.

dard stereotypes for working women need to be examined.

For example: "Are women more suited to artistic roles, noncompetitive jobs? Is it true that women tend to work 'women's work,' where competition is less; operate as a minority group in a self-fulfilling effort? Do women prefer to work for men? Do women have more absenteeism? There are laws protecting women. Are they needed? Are they outdated? Do they discriminate against men? Are they helping or hindering women? Are women being prepared for appropriate levels of employment? What of the many women who are employed below the level of their ability and education?"

It is reported that the attitudes of women toward work are important in determining the lifetime decisions and activities. "However, the attitudes of men in general, men in business and industry, and school personnel toward women's labor force participation are just as important."

The Educational System

The study asks some searching questions about the educational system. The fundamental one is whether or not present education is realistic in terms of current labor force participation of women. Other questions have to do with existing vocational and technical education programs:

"Is there flexibility in the programs? Are the hours when programs are offered convenient for post-high school women students with other responsibilities? Are there conditions within the community which cause women to be fearful (both teachers and students) of being 'out' at night and deter enrollment in evening classes? Do girls really know what and where their opportunities are? What are we doing to help people find themselves and set goals? What are the status problems associated with vocational education?"

Guidance and counseling for girls and women, the report states, must be oriented toward lifetime careers. "The role of guidance and counseling needs broadened interpretation, understanding and acceptance by counselor educators. The tendency to neglect vocational aspects of counseling must be overcome. Counselors who are not willing or not able to consider women's needs objectively should not work with girls and women. Those counselors who are only interested in the college-bound group should not be given responsibility for vocational counseling."

Research Recommendations

Many recommendations for needed research were made. "The development of a theory of vocational choice broad enough to encompass the realities of women's lives is essential. . . . Vocational educators need to know more about *input* (the people we have) in vocational programs. What are the characteristics of secondary students?

"What happens to girls and women after preparation for employment? There is need for longitudinal examinations of patterns of work (full-time, part-time) for women in relation to patterns of education programs, such as the study now being conducted by Parnes for the U.S. Department of Labor, Office of Manpower Policy, Evaluation and Research.

"Research should supply answers to problems cited in the area of employin the work force. How can women be educated to prepare themselves for opportunities for entering or reentering the work force and for advancement? Who is responsible for providing information on new jobs? What kind of services might the homemaker need in order to enter work, i.e., child care facilities? Are women in the age group 45-55 entering the labor force for the first time or are they re-entering? What kind of training do they need?"

The study on women's work patterns is a truly signified document, one which deserves the attention of teachers and administrators and of guidance counselors, researchers and teacher educators. Its importance lies in the fact that it deals with basic problems that are common to the education of all girls and women. The statistical data presented here, together with articulation of timely questions on a variety of relevant topics, should stir the thoughts and actions of many.

BIBLIOGRAPHY

RESEARCH, DEMONSTRATION, INSTITUTES REPORTED IN THIS ISSUE

Completed Studies

TOPIC ONE: New Directions in Business Education

2:1 "Scientific Secretary Training Program Development" by John H. Swenson, Colorado University. (Project # 5-0188) 1968. 74 pages. (VT 005 720, for ED number, see Nov. 1968 *Research in Education*).

2:2 "Effects of Interval Pacing on the Acquisition of Typewriting Skill" by Leonard J. West, New York City Univ., N.Y. Office of Research and Evaluation. (Project # 6-2116) 1968. 38 pages. (VT 005 538, for ED number, see Nov. 1968 *Research in Education*).

2:3 "Clusters of Tasks Associated With Performance of Major Types of Office Work" by Edward A. Perkins, Jr. Washington State University. (Project # 7-0031) 1968. 210 pages. (VT 005 184, for ED number, see Sept. 1968 *Research in Education*).

2:4 "Pre-Service Education of Office Educations Teachers" by Dolores Kilchenstein. Texas Technological College. (Project # 7-0450) 1967. 78 pages. (VT 004 416, for ED number, see Nov. 1968 *Research in Education*).

TOPIC TWO: Home Economics: In School and Community

2:5 "Evaluation of Secondary School Programs To Prepare Students for Wage Earning in Occupations Related to Home Economics" by Helen Y. Nelson and Gertrude P. Jacoby. New York State College of Home Economics (Project # 5-0043) 1967. 169 pages. (VT 004 937, for ED number, see Oct. 1968 *Research in Education*).

2:6 "Development of a Film on Homemaker Services for Instruction to the Public and Training Professional and Nonprofessional Personnel" by Alberta Jacoby. Mental Health Film Board, Inc., New York, N.Y. (Project # 5-1318) 1967. ERIC # ED 016 074. MF $.25 HC $.40. 8 pages.

2:7 "Child Development Training Program for Vocational Home Economics Teachers" by Helen Sulek. Nebraska University. (Project # 6-2186) 1967. ERIC # 016 066. MF $.50 HC $4.52. 111 pages.

TOPIC THREE: Food Services Occupations

2:8 "Status of Curriculum Development in the Field of Commercial Food at the Non-Baccalareaute Level" by Mildred B. Barnard. Council on Hotel, Restaurant and Institutional Education, Ithaca, N.Y. (Project # 5-1316) 1967. ERIC # ED 016 073. MF $.75 HC $6.76. 167 pages.

2:9 "Work Instruction Programs for the Food Service Industry" by the Departments of Institutional Management and Industrial Engineering, Kansas State University. (Project # 6-2159) 1967. ERIC # ED 011 961. MF $.09 HC $2.12. 53 pages.

TOPIC FOUR: Career Opportunities in Health Services

2:10 "Practical Nursing in Illinois: A Profile" by Robert Tomlinson. Illinois University, Illinois State Board of Vocational Education. (Project # 5-0126) 1967. ERIC # ED 013 645. MF $.75 HC $6.96. 172 pages.

2:11 "Development and Evaluation of Educational Programs in Bio-Medical Equipment Technology, Phase I" by Technical Education Research Center Inc. (Project # 5-0175) 1967. 160 pages. (VT 004 168, for ED number, see July 1968 *Research in Education*).

2:12 "Mental Health and Psychiatric Nursing in Practical Nurse Education" by Annie L. Crawford. Southern Regional Education Board, Atlanta, Ga. (Project # 6-2129) 1967. ERIC # ED 015 39.

2:13 "Investigation To Produce Guidelines for Health Technology Program Planning" by Carol Kahler. American Association of Junior Colleges, Washington, D.C. (Project # 6-2355) ERIC # ED 013 114. MF $.25 HC $2.20. 37 pages.

2:14 "A Comprehensive Project To Develop a Complete Curriculum in the Area of Medical Records Technician" by Robert L. Love. New York State Agricultural and Technical College. (Project # 6-8302) 1968. 99 pages.

2:15 "Medical Laboratory Assistant Teacher Education Institute—Pilot Program" by Rex D. Couch. National Committee for Careers in Medical Technology, Washington, D.C. National Council on Medical Technology Ed., Memphis, Tenn. (Project # 7-0635) 1968. 108 pages.

2:16 "The Subprofessional From Concepts to Careers "by Edith F. Lynton. National Committee on Employment of Youth. 1967. 186 pages. (For ED number see Dec. 1968 *Research in Education*).

TOPIC FIVE: Women in Industry

No studies.

TOPIC SIX: Career Patterns For Women

2:17 "Implications of Women's Work Patterns for Vocational and Technical Education" by Sylvia L. Lee. 1967. 80 pages. (VT 003 368, for ED number, see July 1968 *Research in Education*).

2:17 "Implications of Women's Work Patterns for Vocational and Technical Education," Annotated Bibliography." 1967. 36 pages. (VT 003 707, for ED number, see July 1968 *Research in Education*).

Studies in Process

TOPIC ONE: New Directions in Business and Education

No studies.

TOPIC TWO: Home Economics: In School and Community

"The Efficacy of Home Economics Courses Designed To Prepare Disadvantaged Pupils for Their Homemaker Family Member Role and the Dual Roles of Homemaker and Wage Earner" by Helen Y. Nelson. Cornell University, Ithaca, N.Y. (Project # 6-3049).

"The Efficacy of Home Economics Courses Designed To Prepare Disadvantaged Pupils for Their Homemaker Family Member Role and the Dual Roles of Homemaker and Wage Earner" by Mary Helen Haas. The Ohio State University Research Foundation, Columbus, Ohio. (Project # 6-3050).

"Institute on Post-High School Programs in Home Economics Education Utilizing the Resource Guide" by Ruth J. Dales, Florida State University, Tallahassee, Fla. (Project # 7-0382).

TOPIC THREE: Food Service Occupations

"Curriculum Development and Training Program for Food Service Employees" by Hester Chadderdon, Iowa State University, Ames, Iowa. (Project # 5-0129).

TOPIC FOUR: Career Opportunities in Health Services

"Pittsburgh Technical Health Training Institute Demonstration Project" by Louis J. Kishkunas, Board of Public Instruction, Pittsburgh, Pa. (Project # 6-2015).

"American Association of Junior Colleges National Health Council Committee on Health Technology Education" by Mendel, Levitte, National Health Council, New York, N.Y. (Project # 6-2355).

"1967 Summer Teacher Training Institute in Dental Assisting" by Elizabeth M. Linn, Marquette University, Milwaukee, Wis. (Project # 7-0463).

"A Clinical Workshop in Mental Health and Psychiatric Nursing for Instructors in Schools of Practical Nursing" by Carl F. Lamar, University of Kentucky, Lexington, Ky. (Project # 7-0544).

TOPIC FIVE: Women in Industry

"Vocational Interests of Non-Professional Women" by David P. Campbell, University of Minnesota, Minneapolis, Minn. (Project # 6-1820).

TOPIC SIX: Career Patterns for Women

"Factors Associated With Successful Adaptation to the Secretarial/Stenographic Role" by Fred S. Cook, Wayne State University, Detroit, Mich. (Project # 6-2181).

"Form of and Procedures and Taking Dictation for Initial Stenographic Secretaries" by Herbert E. Tonne, State University of New York, Albany, N.Y. (Project # 6-2981).

"Effects of Mechanically Forcing Copying Speeds or Learning of Elementary Gregg Shorthand" by Ronald Edwards, Michigan State University, East Lansing, Mich. (Project # 6-8810).

AVAILABILITY OF REPORTS FOR FURTHER STUDY

Reports which are followed by the letters ERIC and an acquisition number like ED 010 000, usually may be purchased from the ERIC Document Reproduction Service (EDRS), Microphoto Division, The National Cash Register Co., Box 2206, Rockville, Md. 20852. The letters (MF) indicate the availability of microfiche copies; and (HC) for hardbound copies, at the prices given. Reports which cannot be obtained from EDRS show appropriate source of availability.